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EFFECT OF DIFFERENT ORGANIC WASTES ON UREASE ACTIVITY OF MAIZE (Zea mays indendata) RHIZOSPHERE AND ROOT FREE SOIL

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This study was carried out in order to determine the effects of various organic wastes (tobacco production waste, wheat straw, tea waste and hazelnut husk) under greenhouse conditions on urease activityin clay loam soil and rhizosphere (*Zea mays indandata*)soil of maize plant. The organic wastes were thoroughly mixed with the soil at a rate equivalent to 50 g kg^{-1} on air-dried weight basis. Experimental design was a randomized plot with replications in a greenhouse. The moisture content in soil was maintained around 60 % of maximum water holding capacity by weighing the pots every day. Changes in the urease activity (UAc) were determined in the soil and rhizosphere (*Zea mays indendata*) samples and root-free soil taken on the 15^{th}, 30^{th}, 45^{th}, 60^{th}, 75^{th} and 90^{th} day after the experiment was conducted. At the end of experiment, all organic waste increased UAcin the soil in comparison with the control ($P<0,01$) at all experimental periods. Moreover, UAcin rhizosphere soil were higher than in root-free soil at all organic waste applications ($P<0,01$).Increased amount of organic wastes had different effects on UAc ($P<0,01$).The most increases are in the UAcin the soil treated with tea and tobacco production wastes with supplying of low initial C/N ratio compared to the other organic wastes.

Keywords: organic waste, soil, rhizosphere, urease activity.